



Space News Roundup

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No. 27

NASA moving forward with station redesign

Goldin seeks tools to revamp with minimal disruption to employees

Working under a Sept. 7 White House deadline, NASA's top management is moving forward with plans to redesign the space station and the agency's management structure.

While this will require some fundamental rebuilding and staffing reductions, NASA will do its utmost to minimize disruption to its people, Administrator Daniel S. Goldin told the Senate Subcommittee on

Science, Technology and Space recently.

NASA is still waiting for the Senate to confirm a \$2.1 billion space station spending plan for fiscal 1994, but Goldin already has received orders from the White House to put together an implementation plan that includes a final design for the redesigned space station program, key technical and cost milestones, a plan for revised space

station management and a plan for continuing and possibly expanding international participation in the station program.

Among the big changes in store for the space station program—and thus the agency—are a move to assign responsibility for program system engineering and integration, as well as design and development of station flight hardware and software, to a single prime contractor

accountable to a single program manager at a single "host" center.

No decisions have yet been made relative to the prime contractor for the redesigned station, or the NASA management team or host center for the program. The decisions will be based on guidance from the White House, Congressional activity over the summer and the ongoing follow-up work by the Space Station Redesign Team.

This is expected to result in a reduction of at least 30 percent of the civil service and contractor employees assigned to the space station program.

"The reductions in contract and management layers needed to accomplish these recommendations will not be easy, but must be undertaken and implemented in an expeditious and orderly manner to com-

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Hutchison vows to fight for space

By Kelly Humphries

U.S. Sen. Kay Bailey Hutchison told employees at JSC Wednesday that she will fight for the space program and the space station because she thinks they are important to America's leadership of the world and to the well-being of its children.

"This (the space program) is something that I think we cannot back away from," the recently elected senator said. "The United States used to spend over 5 percent of our federal budget and our federal assets on research. Today it is 1.7 percent. I think that is just about as low as we could ever go as the leading nation in the world."

U.S. Sen. Kay Bailey Hutchison told JSC employees Wednesday that she will be a fighter for the space program and the space station because she thinks it is important to America's leadership of the world and to the global well-being of its children.

"This (the space program) is something that I think we cannot back away from," the recently elected senator said. "The United States used to spend over 5 percent of our federal budget and our federal assets on research. Today it is 1.7 percent. I think that is just about as low as we could ever go as the leading nation in the world."

Hutchison, who grew up in LaMarque, and reported on the early space program for the Associated Press, said she will serve on the Senate's Armed Services and Commerce, Science and Transportation Committees and that she will be a member of the latter's Science Subcommittee, which oversees NASA.

"You're not going to have a
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The STS-51 crew poses for its official mission portrait. From left are Commander Frank Culbertson, Mission Specialists Dan Bursch and Carl Walz, Pilot Bill Readdy, and Mission Specialist Jim Newman.

Nassau Bay, Star City to be sister cities

The home-base of the Russian space program and a Clear Lake community that has been home to many JSC astronauts, employees and contractors will become sister cities at a special ceremony to be held at Space Center Houston this Thursday evening.

The signing of a Sister City agreement between Nassau Bay, Texas, and Zvyozdny Gorodok, also known as Star City, Russia, will be an integral part of the Sister Cities International Annual Conference being held in Houston from July 14-17. More than 1,200 Sister City delegates, including 300 international guests, will be on hand when Nassau Bay Mayor Gerald Allen and General Pyotr Klimuk, chief of the Yuri A. Gagarin Cosmonaut Training Center, formally sign the Sister City agreement promoting friendship, cultural exchanges and joint ventures.

"We have been working toward the Sister

City arrangement since August 1992, and we were told it couldn't be done," said David Stall, city manager of Nassau Bay. "Star City really isn't a city. It has no mayor or city council as do other cities in the program. It is more like an Edwards Air Force Base. Naturally, our long association with Johnson Space Center is at the heart of our similarity with Zvyozdny."

Although establishing a Sister City normally takes up to two years, the agreement between Zvyozdny Gorodok and Nassau Bay was completed in just five weeks through the efforts of Sister Cities International in Virginia and Twin Cities International Association in Moscow. In addition, Valentina Tereshkova, the first woman in space, provided strong support.

"Having our JSC neighbor, Nassau Bay and Zvyozdny Gorodok, the home of the Russian cosmonauts, joining as Sister Cities

Please see **NASSAU**, Page 4

Discovery, crew set for Saturday

STS-57 should produce an abundance of exciting downlink television that will show Americans and their international space partners the important accomplishments of *Discovery's* next mission, crew members said Tuesday.

Discovery is scheduled for launch at 8:22 a.m. CDT Saturday from Kennedy Space Center's Launch Pad 39B on a 10-day mission to deploy both the Advanced Communications Technology Satellite and the Orbiting and Retrievable Far and Extreme Ultraviolet Satellite. Also scheduled is a six-hour space walk.

Technicians at the pad last week fueled the shuttle's orbital propulsion system with hypergolic propellants—chemicals that ignite on contact—and began closing *Discovery's* engine compartment. A check of all ORFEUS-SPAS connections was conducted early in the week, and the cargo bay doors were shut for the flight.

Commander Frank Culbertson and Pilot Bill Readdy are the only two space flight veterans among the crew; Mission Specialists Dan Bursch, Jim Newman and Carl Walz all will be feeling their first launches.

Culbertson said the flight plan includes nine days packed with activities that test everything from tools that will be used during Hubble servicing mission extravehicular activity to a JSC-developed payload bay laser ranging system that will be used in the 1995 docking with the Russian Mir space station.

"It's going to be a very visual flight, with a lot of TV from the payload bay during the EVA, a lot of TV from the SPAS of the shuttle flying away and hopefully we can send a lot of that down live," Culbertson said.

ACTS will be boosted into a geosynchronous orbit by a transfer orbit stage, making its maiden shuttle voyage as well, though it was first used on an expendable vehicle to boost Mars Observer.

"With the shuttle we have airborne support equipment that holds the ACTS and the TOS in the payload bay so during the deploy you'll see some very vivid images of this airborne support equipment opening up

Please see **STS-51**, Page 4

Extra days on orbit couldn't erase smile

It took teamwork and coordination to accomplish the varied objectives of STS-57, the crew told well-wishers gathered at Ellington Field for homecoming ceremonies about 10 hours after landing at Kennedy Space Center.

Employees will receive a full briefing in Teague Auditorium at 10 a.m. Friday, and employees also will be invited to join the public for a follow-up talk at Space Center Houston at 12:30 p.m. Friday. Civil service and contractor employees will be allowed to enter Space Center Houston by showing their badges.

"This flight involved a little bit of everything we do in space," said Commander Ron Grabe. "It was a real treat to be on it, but because it was so diverse it required the support of so many people on the ground — lots of whom are out here today — and we owe them a huge debt of gratitude. It was just a real great example of the way the

NASA family operates and the tremendous teamwork we can pull together to bring off a flight like this."

"It really shows what a fantastic machine the orbiter is. It allowed us to go retrieve a payload from space, to work with international partners, we had a chance to fly the first commercial laboratory, do a lot of good science and at the same time we had a chance to do an EVA," said Mission Specialist Jeff Wisoff. "This mission really had everything in it and we really owe it to you guys for training us, getting us the support, getting the teamwork together."

Mission Specialist Janice Voss said one of her most vivid memories from the flight was during retrieval of the European Retrievable Carrier satellite. She was in the Spacehab module by herself, with the lights out and the night vision system on, and could follow the progress of the flight only by

Please see **STS-57**, Page 4



JSC Photo by Bob Walck

STS-57 Mission Specialist Janice Voss gets a hug from a young admirer during welcome home ceremonies at Ellington Field following *Endeavour's* successful flight.

JSC

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Gift Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

- EAA Ringling Bros. & Barnum & Bailey Circus (11 a.m. July 17, Summit): \$9.
- Texas Folklife Festival Trip (Aug. 7-8, San Antonio): \$125 per person, \$49 per child accompanied by two adults, includes transportation, lodging and two-day admission.
- Moody Gardens — Discount tickets to three of five attractions: \$14.
- Six Flags Over Texas — Discount tickets: one-day pass, \$19.95; two-day pass, adult \$24.95 and children under four feet, \$18.95.
- Splash Town USA — Discount tickets: \$10.50.
- Astroworld — Discount tickets: adult, \$18.95; children under 54 inches, \$15.95.
- Waterworld — Discount tickets: \$9.95.
- Sea World in San Antonio — Discount tickets: adult, \$19.75; child (3-11), \$13.15.
- Fiesta Texas, San Antonio — Discount tickets: adult, \$18.35; child (6-11) \$12.75.
- Sea World and Fiesta Texas discount coupons — \$6 off discount prices if tickets purchased for both parks.
- Space Center Houston — Discount tickets: adult, \$7.50; child (3-11) \$4.50; commemorative: \$8.75.
- Metro tickets — Passes, books and single tickets available.
- Movie discounts — General Cinema, \$4.50; AMC Theater, \$3.75; Loews Theater, \$4.

JSC

Gilruth Center News

Sign up policy — All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a badge or EAA membership card. Classes tend to fill up two weeks in advance. For more information, call x30304.

EAA badges — Dependents and spouses may apply for photo identification badges from 6:30-9 p.m. Monday through Friday. Dependents must be between 16 and 23 years old.

Defensive driving — Course is offered from 8 a.m.-4:30 p.m. July 17. Cost is \$19.

Weight Safety — Required course for employees wishing to use the weight room is offered from 8-9:30 p.m. July 14. Pre-registration is required; cost is \$5.

Aerobics — High/low-impact class meets from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is \$32 for eight weeks.

Exercise — Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is \$24 for eight weeks.

Aikido — Martial arts class meets from 5-7:30 p.m. Tuesdays. Cost is \$15 per month.

Golf — Group lessons are offered at 5:30 p.m. Mondays for six weeks in Aug. at the Clear Lake Golf Course. Cost is \$90. Loaner clubs are available for those who need them.

Volleyball workshop — Beginner's workshop will meet from 2-4:15 p.m. Saturdays for eight weeks beginning July 10. Cost is \$25.

Softball sign-ups — Summer registration will be July 13-16 for mixed recreational, men's competitive A, B and C, and mixed competitive B leagues.

Fitness program — Health-Related Fitness Program includes medical examination screening and a 12-week individually prescribed exercise program. Call Larry Weir, x30301.

JSC

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date of publication. Ads may be run only once. Send ads to Roundup Swap Shop, Code AP3, or deliver them to the deposit box outside Rm. 147 in Bldg. 2. No phone or fax ads accepted.

Property

Sale: Forest Bend, 3-2-2, new roof, paint, child's playhouse, lg backyard, upgrades, \$72k nego. Ted, x36894 or 992-4814.

Sale: Sterling Knoll, 3-2-2, pool FPL, extras, \$67.9k. Terry, x32264 or 486-9760.

Sale: LC, 3-2-2, all brick, new appl, 5 ceiling fans, new wallpaper/paint, lg lot, no MUD tax, CCISD, \$76k. 332-7908.

Rent: Laporte, 3-2-2, near schools, \$700/mo. x39034 or 474-2660.

Rent: Sarasota, FL, 1 BR condo, Aug 7 thru Aug 14, sleeps 4, all amenities, ocean front, beach resort, \$750/wk plus \$100 refundable sec dep. x37194 or 438-0201.

Rent: Southern Colorado, 2 BR house, furn, sleeps 5, close to skiing, fishing, national forest, no smoking no pets, day/wk/mo or longer. Bob, x30825 or 998-7372.

Sale: Livingston, 3-2, 80' MH on wooded lot, util, 15x20 deck, private boat launch, pics avail, \$15k. Michelle, x36792 or 326-3447.

Sale: Univ Green, 3-2-2, new AC, ceiling fans, deck, custom miniblinds, drapes, all appl, 9.5% no approval, assum loan, \$87.5k. 488-0345.

Sale: Taylorcrest, 3-2.5, 2518 sq ft, single story, quiet, \$149.9k. 326-5256.

Lease: Lake Travis cabin, private boat dock, CA/H, fully equipped, accommodates 8, wkly/dly, \$425/\$90. 474-4922.

Sale/Rent: Pearland, 3-2, 14x70 trlr. x37797 or 997-0309.

Sale: Univ Place TH, 2-2.5, gar, FPL, \$74k nego. Jim, 482-8800 or Dave 486-5181.

Sale: LC lot, 82' x 130', \$9.5k. x36514.

Sale: El Lago, 3-2-2, sprinkler sys, deck, alarm, updates. 326-4938.

Sale: Dickinson, 3-2-2, lg living rm, master BR, split-floor plan, cathedral ceiling, cov patio, all appl, assumable. 538-1217.

Sale: Galv San Luis condo, eff, gulfview, swimup bar, quarter timeshare, \$14.5k. 326-4938.

Lease: Meadowgreen, 4-2.5-2, island kitchen, breakfast area, FPL, master dn, lg deck, patio, no dogs, \$1250/mo; Lease: Fairmont Park, Laporte, 3-2-2, lg LR, formal dining, FPL, area playground/pool, no dogs, \$750/mo. 282-4750 or 480-9195.

Sale: Dickinson waterfront, 4-2.5-2, pool, FPL, wetbar, 100 yr old trees, 3/4 acre, sec sys, \$224k. x34354 or 337-1640.

Sale: Seabrook, 3-2, attached gar w/extra elec service, 1800 sq ft, walk to library, grocery, pool, \$64k OBO. Tandi, x33699 or 474-4506.

Rent: Galv condo, furn, sleeps 6, Seawall

Blvd & 61st St, cable, wkly/wknd/dly. Magdi Yassa, 333-4760 or 486-0788.

Sale/Rent: Egret Bay condo, FPL, fans, W/D, dishwasher, micro, lg balcony, cov parking, pool, boat ramp, dock, entry gate, \$530/mo + dep. Karl, x33031 or 286-9822.

Sale: Lake Livingston lot, retirement subdivision, all util, community pool/club/tennis, low taxes/maintenance. 488-0719.

Cars & Trucks

'85 Delta 88 Royal w/new engine, one owner, sell or trade for PU, ex cond, \$3650. x33941 or 286-7262.

'84 VW Rabbit GTI, eng maintained, good shape, checked by local mechanic, clean int, gar, no rust, needs some paint work, \$1750. Stephen, x47542 or 480-3133.

'92 Acura Integra LS, 18k mi, cruise, PW/PL, rear spoiler, Rosewood. 922-4014.

'88 Toyota Camry LE, loaded, warr, low miles, ex cond, \$8k. Tony, x35966.

'71 Classic Chevy Nova, V8, orig owner, \$4.5k. 480-1998.

'77 Camaro, 73k mi, AC, auto, new tires, 305 V8, silver, ex cond, \$2750. 488-8439.

'81 Olds Cutlass, good work car, \$1.4k. Patty, 280-5159.

'85 Honda Prelude, 8k mi on new eng, auto, AC, AM/FM/cass, PSPB, sunroof, ex cond, \$4.8k OBO. Barry, x38410.

'84 Subaru GL, 2 DR, 100k mi, AC, AM/FM, 5 spd, tilt, cruise, well maintained, \$1.6k. 992-5832.

'87 Dodge Dakota PU, longbed, AC, PS/PB, auto, \$4999 OBO. 326-5256.

Vespa Bravo model moped, 225k miles, \$600. Earl Rubenstein, x34807.

'85 Ford Club Wagon XLT, V8, w/OD, auto, AC, ex cond, \$2850 nego. John, 480-3542.

'81 Mercury Capri, 61k mi, \$400. 282-3479 or 532-1112.

'91 Camaro RS, wht, AC, cass, \$7k OBO. x31384 or 487-2383.

'77 Cutlass Supreme Brougham, rebuilt trans, good work car, \$1150 nego. David, 334-6737.

'91 Ford Explorer XLT, 4 DR, auto, cruise, remote door locks, cusotm lumbar seats, \$16k. Ann, x36619.

'84 Toyota Celica GT, 5 spd, 95k mi, ex cond, \$4.2k. Ray, x30643.

'90 GMC PU, Sierra/SL, 1/2 ton, V6, 5 spd, AC, cruise, AM/FM/cass, bedliner, 40k mi, ex cond, \$9.6k. x33749 or 554-5506.

'89 Merkur XR4Ti turbo, 5 spd, sunroof, leather seats, PW/PL, 62k mi, \$6.8k. Robert, x34599 or 559-2716.

'71 Skamper 10' cabover popup camper for PU, AC, stove, refrig, sink, \$500;

'86 Ford Taurus GL, all pwr, 92k mi, ex cond. 482-2157.

Boats & Planes

'88 Commercial Johnson 20hp w/low hours, '65 Lone Star 15' v hull, \$1K OBO. Damon, 283-6911 or 480-5426.

Santana 22 sailboat, fixed keel, main, jib, spinnaker, ex cond, \$4k. x34063.

JSC

Dates & Data

Today

Space Society meets — The Clear Lake Area Chapter of the National Space Society will meet at 7 p.m. July 12 at Freeman Memorial Library. For more information, call Clint at 333-4202.

Cafeteria menu — Special: Italian outlet. Entrees: barbecue beef, spare ribs with kraut, steamed pollock, French dip sandwich. Soup: black bean and rice. Vegetables: California mix, okra and tomatoes, vegetable sticks, ranch style beans.

Tuesday

Cafeteria menu — Special: corned beef hash. Entrees: meatballs and spaghetti, grilled liver and onions, beef cannelloni, ham steak Hawaiian. Soup: split pea. Vegetables: winter blend mix, seasoned cabbage, breaded squash, lima beans.

Wednesday

Cafeteria menu — Special: smoked barbecue link. Entrees: cheese enchiladas, roast pork and dressing, baked scrod, baked chicken, Reuben sandwich. Soup: seafood gumbo. Vegetables: Italian green beans, Spanish rice, turnip greens, peas and carrots.

Thursday

Creativity colloquium — A NASA Continuous Improvement Colloquium will be held at noon July 15 in Bldg. 1, Rm. 820, and broadcast on JSC Television Distribution System Channel 4. Dr. Sam Stern, professor of education at Oregon State University, will present "Managing for Organizational Creativity," and discuss of a two-year study of Japanese companies that suggests creativity can be

influenced through target setting, unofficial research and intrinsic motivation. For more information, call x35019.

SOLE meets — The Houston chapter of the Society of Logistics Engineers will discuss the planning of the sixth Space Logistics Symposium at 5:30 p.m. July 15 at South Shore Harbour Country Club. Dinner cost is \$8. For reservations, call x44674, x40085, x30913 x33661 or 333-6710.

Cafeteria menu — Special: chicken fried steak. Entrees: roast beef with dressing, steamed pollock, lasagna with meat, baked chicken, French dip sandwich. Soup: beef and barley. Vegetables: whole green beans, butter squash, cut corn, black-eyed peas.

Friday

Space Society meets — The Houston Space Society will meet at 7:30 p.m. July 16 in the third floor auditorium of Transco Tower. For more information, contact Clifford Carley at 928-6882.

Cafeteria menu — Special: fried chicken. Entrees: broiled cod fish, beef stroganoff, vegetable lasagna. Vegetables: steamed broccoli, carrots Vichy, Italian zucchini, breaded okra.

Monday

Cafeteria menu — Special: meat sauce and spaghetti. Entrees: franks and sauerkraut, sweet and sour pork chop with fried rice, potato baked chicken. Soup: cream of potato. Vegetables: French beans, buttered squash, lima beans.

July 22

Book signing — Mike Mullane will autograph his new book, "Red Sky,"

from 4:30-7 p.m. July 22 at Jeremy's Bookshelf. For more information, call Sally Jordan at 486-8028.

July 25

Educational fun — The Clear Lake Area Chapter of the National Space Society is sponsoring a day of games and science experiments for children from 12-5 p.m. July 25 at Jeremy's Bookshelf. For more information, contact Marianne Dyson at 486-4747.

Aug. 3

SOAR '93 — The Space Technology Interdependency Group presents its seventh annual Space Operations, Applications and Research Symposium, to be held on Aug. 3-5 at the Gilruth Center. For more information, civil servants should call Jane Kremer at x32601; contractors should contact PACE at 282-3030.

Aug. 9

NSS meets — The Clear Lake Area Chapter of the National Space Society will meet at 7 p.m. Aug. 9 at the Freeman Memorial Library. For more information, call Marianne Dyson at 486-4747.

Oct. 31

Bike tour — The Lions Eye Bank of Texas and the JSC Bike Club are sponsoring the 15th Annual Texas Coastal Cruise. The ride will begin at 8 a.m. Oct. 31 at Clear Lake Park on NASA Road 1. For more information, call 798-5510.

Toastmasters meet — The Spaceland Toastmasters Club will meet at 7 a.m. Wednesday at House of Prayer Lutheran Church. For more information, call David Bacon at 483-3845.

Swap Shop

CRIT 630 windsurfer 12' board, 2 sails, \$300. Robert, x34599 or 559-2716.

Cycles

'88 Hurricane, 19k mi, \$2.6k OBO. x34204 or 480-2954.

'83 Honda Shadow 500cc, 16k mi, \$750. x49860 or 554-2869.

Audiovisual & Computers

Macintosh Classic II, 4/80 w/kybd, mouse, 16Mhz, floating point unit, 1 yr old, \$1150. Bo, 538-1985.

Mac software, Microsoft Powerpoint, \$100; Caere Image Assistant for scanning, \$150. 486-8716.

Teletype terminal, AEA for C-64, \$125. Bill, 554-6242.

IBM XT, 640k, 10 MB, monitor/kybd, sw, 1 disc drive, printer incl, \$650. 337-4182.

Two color tv's, one works, other questionable, 2 Commodore computers, MPS-801 printer, 1541 disc drives, 1571 drive, NAP monitor, Magnavox monitor, C2N datasette unit mod 1530, some ham equip, ICOM IC-2AT 2 meter HT. Luther, 326-1946.

Laser turbo XT, 640KB, 40 MB, 2 5.25 FD, Packard Bell EGA color monitor, Epson LX printer, incl manuals, \$600 OBO. Kim, 283-6890.

IBM PCXT clone, 640K RAM, 40 MB HD, 5.25 & 3.75 FD, color card, amber monitor, \$350 OBO. x45050.

Photographic

Nikon 2020 AF camera, fully auto w/Kenlock 2000 GLB tripod, \$500 OBO. Kathi, x38674 or 480-8674.

Pets & Livestock

Minlop rabbit, solid blk, grand champion bloodline, \$35. 996-0981.

AKC chow-chow stud service, terms nego. Jackie, 282-4337 or David, 554-7305.

Doberman pups, pure bred/tails docked, wormed, 1st shots, all colors, \$50/ea.; African grey birds. x45384 or 409-925-6405.

Musical Instruments

Soprano saxophone, \$400; Armstrong 103 flute, \$150; Gemeinhardt flute, \$100. Karl, 944-8717.

Yamaha PSR 90 kybd, disc capable, foot pedal, stand, \$300. x39034 or 474-2660.

Leslie 910 tone cabinet w/pw amp pedal, kybd stand, 3-tier, blue anvil case, \$500. Sharon, 486-7428.

Trombone, school approved, ex cond, \$100. 486-7245.

Fender 12 str-acoustic, \$250; engraved bass, \$300; Gibson Explorer, \$400, all w/cases, all prices nego. David, 334-6737.

Wurlitzer organ w/bench, \$225. Don, 326-1817.

Guild acoustic guitar w/hard case, 6 string, ex cond, \$450. x39814 or 480-7338.

Household

Mitsubishi lg screen tv, 45", stereo, all features/options, was \$3.3k, now \$1.6k or trade

for working car. 488-0345.

Twin matt/box spring, ex cond, \$75; red-wood outdoor furn, settee, lounge chair, \$135; Maytag W/D, almond, \$125/ea; oak microwave cart, \$15. Don, 326-1817.

Kenmore heavy duty elec dryer, wht, 6 temp, auto or timed cycles, good cond, \$75. David, x34395 or 488-8930.

Qn sz waterbed w/6 drwr dk wood, mirrored hdbd, 2 sets of sheets, padded side rails, \$100. x35805.

Qn sz waterbed w/6 drwr pedestal, rails, bedding, \$175; 55 gal aquarium, compl w/stand, \$200 OBO; pecan wood buffet, \$50. x30576 or 334-6855.

GE elec stove/oven, builtin style, \$200. Teena, x37787 or 422-6369.

4 pc wood frame furn, \$120; oval shape dining rm tbl, 3-5' wide, 4' long w/4 solid wood chairs, \$220. 283-1239 or 538-4393.

Lt wood round modern dinette, 4 matching caneback chairs on wheels, uphol, ex cond, \$300. 326-3137.

Wanted

Want female, nonsmoking roommate to share house in Piper's Meadow, no pets, \$360/mo + 1/2 util + dep. Katy, x34546 or 280-0951.

Want roommate to share 2 BR patio home located in Univ Green/CL, \$300 all bills paid. 488-3384.

Want to buy membership to President & First Lady Health Club. Deanna, 480-2997.

Want pilot's harness/container ass'y, prefer B-4/B-12, must be airworthy, canopy not req'd. Dave, x37176.

Want someone with construction skills to build a small hobby greenhouse in Aug, materials, plans provided. Bob, x32193 or 326-3984.

Want female roommate to share house close to NASA & I-45, nonsmoker, \$250/mo + 1/3 util. 333-6491 or 480-6980.

Want carpool rider from NW/Bear Creek to JSC/CLC, working hours 7 am to 4 pm. Raquel, x31810.

Want bicycle child trlr cart, prefer foldup type. x30074 or 470-9994.

Want female roommate, nonsmoker to share house in Lakeside, 2 rooms avail, no pets, \$300/mo. + 1/2 util + dep. Ann, 282-3790.

Want volunteer families to host international students for the school year. Youth for Understanding is a non-profit org looking for American families to share your home/culture w/teenage foreign exchange students. Marsha Galvan, 334-1219.

Want DOS based PC games/educational software, interested in Simant, Oregon Trail, any Carmen Santiago game. Ron, 335-8581.

Miscellaneous

Jet 10-24 metal working lathe, 3 jaw, 4 jaw chucks w/steel bench, accessories, jet 16 mill drill, both tools ex cond. Luther, 326-1946.

Covered luggage carrier, attaches to exterior roof of car, \$30; microwave oven, 115V,

13 amps, \$110; daybed, single, \$60. 482-5621.

Sony dual cass tape deck, \$75; Windmere hot curlers, \$10; B&D steam iron, \$10; 2 windsurfers, 2 sails, \$100/ea; blue hide-a-bed sofa, \$50; elec typewriter, laptop, w/memory, thermal printer, \$50; exercise bike, \$45. x33941 or 286-7262.

Trundle bed w/sheets, \$100; Smith Corona typewriter, spellcheck, \$50; Grumman 17' canoe w/gear, \$200. x32264 or 486-9760.

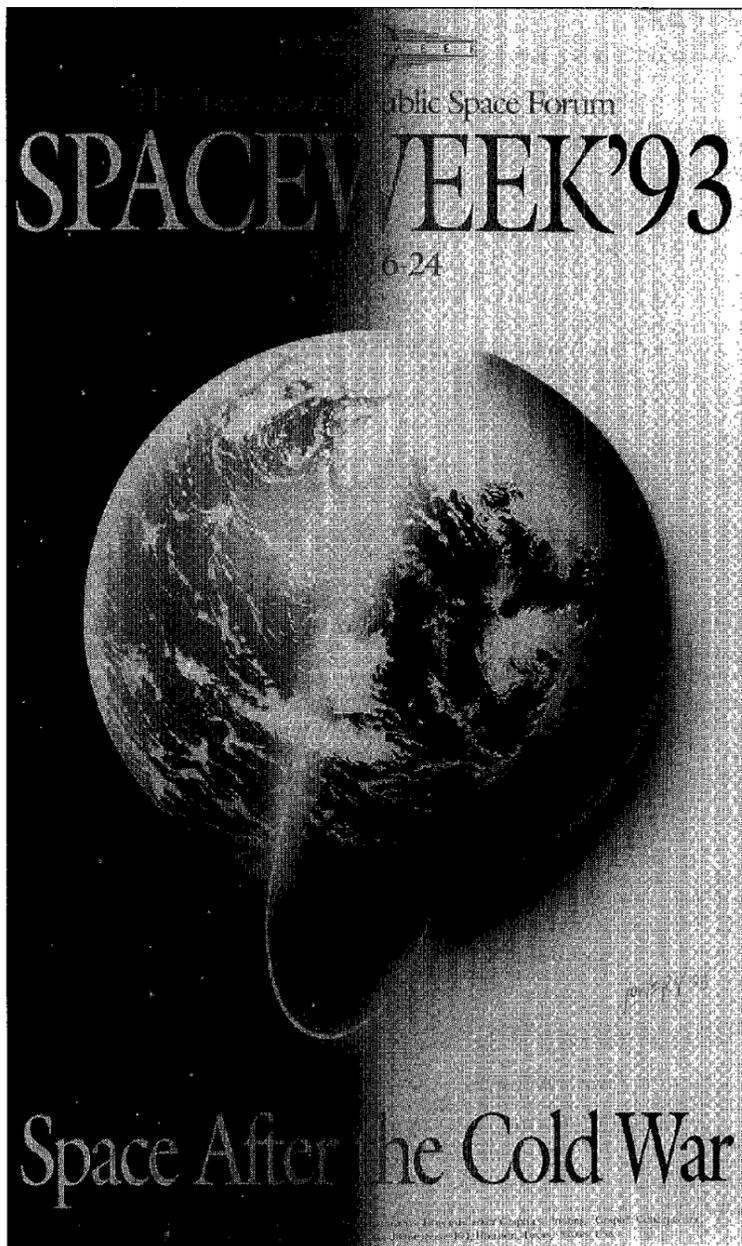
Craftsman self propelled lawnmower, rear bagger, 4hp, 22" cut, \$75. 482-3428.

Peugeot 10 spd bike, \$40; Tunturi rowing machine, \$40; vibrating sander, \$15; Scott time trial bars for bike, \$40; antique toy, Spitz Junior Planetarium, \$60; wood canoe paddle, \$10. 225-4064.

Electronics tool kit, lockable hard case, 2 leaves, \$150. Pete, x33571 or 334-2963.

Pop up camper, sleeps 6, sink, stove, heater, \$1.2k; kg sz waterbed, semi-motionless, black leather headboard, \$400. x36696 or 332-9102.

Chevy split bench truck seat,



Our History, Our Destiny

Spaceweek celebrates proud chapter in human achievement, looks at future of exploration in a world without Cold War

NASA Administrator Daniel S. Goldin will join the Clear Lake aerospace community to kick off Spaceweek, an international public forum on the future of space.

Spaceweek, held July 16-24 each year, celebrates the anniversary of the Apollo 11 first lunar landing in 1969. The international observance also honors the first international docking between Apollo and Soyuz spacecraft in 1975 and the landing of Viking, the first unmanned U.S. probe on Mars in 1976.

Goldin will speak at the Spaceweek 1993 National Gala at 8 p.m. Friday at Space Center Houston. Other dignitaries scheduled to attend include Rep. Jack Brooks; Alan Shepard, first American in space and Apollo 14 moon walker; Apollo 17 moon walker Eugene Cernan; and General Pytor I. Klimuk, chief of the Yuri A. Gagarin Training Center in Russia.

Organizers said Spaceweek not only reveres the past, but serves as a vehicle to look at the future of the world's space programs and increase public interest in and support for space endeavors.

"Space needs an annual show of public enthusiasm and a time to focus widespread attention to its benefits. Spaceweek is a forum which encourages the public to learn, think and talk about our future in space. Space affects everyone's future, but its full potential can only be realized if space programs earn broad public support," said Dennis Stone, volunteer president of Spaceweek National Headquarters in Houston.

Many of the Spaceweek programs are organized around this year's theme, "Space After the Cold War," which involves issues of economic competitiveness, international cooperation, environmental protection and advancement of science education.

"In 1993, few space issues are more fundamental than the question of how the Cold War's end affects 'why' and 'how' we go into space. National leadership no longer seems to be a sufficient reason for space funding. Indeed, the fundamental strategic framework for space programs has suddenly changed. Long-range space goals must be revisited in light of these changes," said Stone, who works in JSC's Assured Crew Return Vehicle Project Office.

Major Spaceweek programs are planned in 27 states. In addition, international programs are scheduled in Argentina, Italy, Greece, France and the United Kingdom.

Spaceweek National Headquarters was started by JSC and contractor employees in 1981 in an effort to better inform Americans about the importance of space exploration. Today, organizations across the country and around the world participate through special activities to demonstrate grassroots public support for space. NASA centers, aerospace

companies, libraries, museums, universities, schools and space enthusiasts sponsor public programs about the space program during the annual celebration.

Spaceweek Inc., is a non-profit, tax-exempt organization governed by a 26-member board of directors including space leaders from the public and private sector. The organization, run by volunteers, takes no specific position of space issues, rather it serves as a forum for discussion of issues facing the space program now and in the future.

"The near-term goal of the organization is to actively involve more than two million people in Spaceweek activities annually beginning in the year 1994, the 25th anniversary of the historic Apollo 11 mission to the moon. The long-term goal of the organization is the continued growth of space exploration and development of programs," Stone said. For more information about Spaceweek, contact Spaceweek National Headquarters at 333-3627.

This year's Spaceweek activities in the Clear Lake area are expected to include the following highlights:

July 16

The annual Spaceweek National Gala will feature remarks by NASA Administrator Daniel S. Goldin and JSC Director Aaron Cohen. The gala begins at 8 p.m. Friday at Space Center Houston. Guests will tour the center and enjoy desserts, coffees and a cash bar. The 18-piece Ronnie Renfrow Big Band will perform. Tickets are \$25 per person and may be purchased in the Bldg. 11 Exchange Store and at Spaceweek National Headquarters, 1110 NASA Road 1, Suite 100. For tickets or more information, call 333-3627.

"Settling Mars" will be the topic of Dr. Robert Zubrin, Martin Marietta scientist, beginning at 7:30 p.m. Friday in the Transco Tower, third floor auditorium. The discussion, sponsored by the Houston Space Society, is free and open to the public. For more information, call 482-7132.

July 17

The Houston Rocket Club will hold a demonstration launch of more than 100 model rockets from 1-4 p.m. Saturday in the field next to Rocket Park. Arthur Nino, a space station safety expert, said between 400 and 1,000 people have come out for the annual Spaceweek blastoff in the past. Model rocketeers are invited to bring out their own rockets and to launch them following a safety inspection by a club member. Call 922-7803 for details.

The 15th annual Loral Space Run will begin at 8 a.m. Saturday at the Gilruth Center with the wheelchair start at 7:55 a.m. The 5-kilometer run and 2-mile family walk, organized by the Bay Area Running Club, is expected to cause minor traffic changes at JSC. Entry fee is \$15 until the day of the event. Prizes will be awarded and all entrants will receive space run T-shirts. For more information contact Brenda Sanzone at 480-0257.

More than 50 boats will sail from Clear Lake into Galveston Bay for the annual Lunar Rendezvous Boat Parade. The boat parade will be held Saturday evening for the first time this year and can be viewed from Clear Lake banks or waterfront restaurants. Call the Lunar Rendezvous headquarters at 532-1254 for additional information.

July 18

An interdenominational Sunrise Service on the Bay will begin at 6:45 a.m. Sunday at Camp Casa Mare, 4810 Todville Road in Seabrook. Jim Bland, pastor of the Bay Area Presbyterian Church will lead the service. For more information call the Lunar Rendezvous office at 532-1254.

July 19

The fifth annual Lunar Rendezvous Golf Tournament will tee off at 8 a.m. and 1 p.m. Monday at the Bay Oaks Country Club. Following the tournament, a silent auction, awards ceremony, barbecue dinner and dance will be featured. Entry fees are \$100 for morning and \$125 for afternoon tee times. For more information contact Sandy Sausley 334-1153.

July 19-21

The Junior Astronaut Corps of America will sponsor rocket launches and space rides as part of Junior Astronauts Camp at the San Jacinto College Central Campus in Pasadena. Would-be astronauts of all ages can experience what moving in space is like on the "Space Ball" ride, which mimics a multi-axis simulator, from 2-4 p.m. Monday. A model rocket launch will be held from 9:30 a.m.-noon Wednesday. Both events are free and open to the public. The Junior Astronaut Corps is a non-profit group dedicated to stimulating children's interest in science and math by using the excitement of space exploration. The group holds children's space activities each summer at the San Jacinto College central campus. For more information, call 486-4446.

July 19-23

Boeing Aerospace Operations Co. will offer public open house tours of the Boeing Flight

Equipment Processing Facility from 2-3 p.m. Reservations are required. Call Kari Thornton at 280-2028 for more information.

July 19-29

Children will learn about science and astronomy as a part of Student Starship at the University of Houston-Clear Lake. The science program includes a visit by the Clear Creek Independent School District's "Space Bus." Students will study amateur astronomy and learn about the Sun, Moon, planets and stars. Advanced registration is required. Call Sharon Pennington at 283-3529 for schedule and registration information.

July 22-24

The Lunar Rendezvous Antique Show returns to John Ward Elementary School with more than 30 dealers offering antiques and collectibles. The show runs daily from 10 a.m.-7 p.m., except July 24 when it closes at 6 p.m. A three-day ticket may be purchased for \$4 at the door. For more information call the Bay Area Museum, 532-1254.

July 23

The Houston Space Academy and North Shore High School will host a model rocket launch and demonstration at JSC at 2 p.m. Friday. For more information, contact Ron Monroe at 591-1147.

A Lunar Rendezvous Casino Night will be from 7:30-10:30 p.m. Friday at the Nassau Bay Hilton. Guests will receive \$15,000 of "play" money for \$15. Call 532-1254 for more information.

July 24

The Lunar Rendezvous Festival Family Fun Fair will be held at the Landolt Pavilion in Clear Lake Park beginning at 10 a.m. Saturday. Carnival rides, contests, arts and crafts, music, game booths, sculling demonstrations and a softball game highlight the annual family outing. For more information, call the Bay Area Museum 532-1254.

July 25

Fiction's most enchanting science teacher "Ms Frizzle" will step out of the pages of children's literature and meet her many young fans from noon-5 p.m. Sunday at Jeremy's Bookshelf, 2441 Bay Area Blvd. In honor of the "Magic School Bus," which transports Ms Frizzle and her students on exciting literary journeys of space, through the human body and to the bottom of the ocean, the CCISD Space Bus will be on hand for tours and science experiments. A Ms Frizzle costume contest is planned. Sponsored by the Clear Lake chapter of the National Space Society, all proceeds will be donated to the Clear Creek Independent School District Space Bus and science magnet school. For more information call Marianne Dyson at 486-4747. □

Clear Lake Council presents annual technical awards

Dr. Richard Juday, manager of the image-based tracking at JSC was honored as "Technical Person of the Year" by the Clear Lake Council of Technical Societies.

Robert B. Young, president, Technology Service Group of Lockheed was selected as the council's "Technical Administrator of the Year" and Dr. Tory F. Henson of IBM, who is a lecturer in the electrical and computer engineering department at Rice University, was chosen as "Technical Educator of the Year."

Candidates for the annual awards must be

nominated by one of the CLCTS member organizations based on demonstrated excellence in his or her area of technical endeavor and exceptional contributions in technical areas relevant to council member organizations.

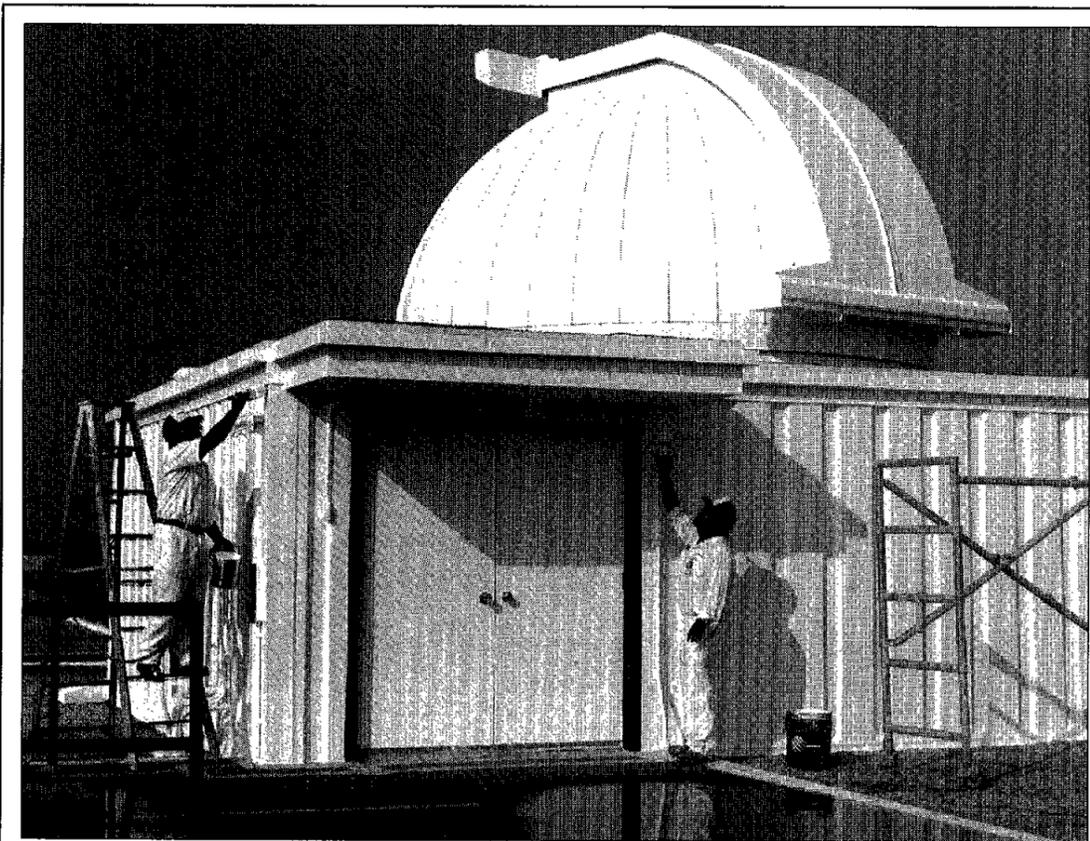
Nominees for the Technical Person of the Year award included Dr. Elizabeth Bains, JSC; Gerardo Carmona, Texas Department of Commerce; Norman H. Chaffee, JSC; and Dr. Tom Limero, KRUG.

Other Technical Administrator of the Year nominees were Robert Brown, Intermetrics; Frank E. Hughes, JSC; and J.L. Thompson, Thompson Engineering.

Candidates for the Technical Educator award included Dr. John Cheatham Jr., Rice University; Kyle Rone, IBM; Patrick D. Rogers, SBS Engineering; Dr. Liwen Shih, University of Houston-Clear Lake; Harold Stall, Space Center Houston; and William K. Witherspoon, consultant.

CLCTS members include the local chapters of the American Institute of Aeronautics and Astronautics, American Society for Quality Control, Armed Forces Communications and Electronics Association, Center for Advanced Space Studies, Institute for Electrical and Electronics Engineers, Information Systems Security Association, Instrumentation Society of America, National Conference on System Engineering, Society for Computer Simulation, Special Interest Group on ADA, Society for Software Quality, Spaceweek and the Texas Society of Professional Engineers.

JSC People



JSC Photo by Benny Benavidez

STAR BRIGHT — Jose Zaragoza and Jose Rodriguez, architectural painters with Anchor Inc., add a restorative paint coat to JSC's Tracking Laboratory dome atop Bldg. 16. The laboratory, operated by the Engineering's Navigation Control and Aeronautics Division, tests instruments that use stars for spacecraft guidance or navigation, such as star trackers for the space station.

Graduate engineering sign-ups coming to JSC

In cooperation with the Cullen School of Engineering at the University of Houston, JSC is again offering graduate engineering courses at the Clear Lake campus for Fall 1993. On-site registration for these and all other UH engineering courses will be from 10:30 a.m. to 2 p.m. Wednesday in the lobby of Bldg. 45.

Registration forms are available in Bldg. 45, Rm. 146. Payment is required at the time of registration. JSC employees may submit a completed Form 75 as payment for their courses. Contractor employees

should include a check made out to UH with their registration form.

Applications will be available for those interested in applying for admission to UH. All applicants for admission and new students must bring their undergraduate transcript with the degree posted. New students should keep in mind that only six hours taken as a post-baccalaureate student may be transferred to UH for graduate credit.

For more information, contact Paige Maultsby of the Human Resources Development Branch at x33075.

Management study fellowships offered

JSC employees—primarily in the GS/GM-13 to Senior Executive Service levels—are being invited to apply for spots in academically based programs of study in management and executive processes.

The programs are at universities such as Harvard, the Massachusetts Institute of Technology, Carnegie-Mellon and Simmons.

Directorate nominations are due to the Human Resources Office by July 30, so anyone who is interested is encouraged to immediately

talk to their supervisors, who must recommend nominees to each organization's director.

Participants in the NASA fellowship programs are selected from across the agency on the basis of their educational and developmental records, significant recognition and accomplishments, reasons for participating in the program, and supervisor and management endorsements.

For more information, call Karen Batte at x32604.

STS-51 will be technology testbed for future shuttle flights

(Continued from Page 1)

and allowing the ACTS and the TOS to tilt out and be deployed," Walz said. "It should be a very visual, very interesting deploy."

Walz is the prime crewman for checkout and operation of the ACTS-TOS combination, and will work with a red stripe on his trousers as EVA-1 during the space walk.

Once in orbit, ACTS will be used to test new technologies in a cooperative effort between NASA, and America's communication industry that could lead to plate-sized satellite dish antennas and phone com-

munications from any location worldwide, among other advances. Among the systems that will be tried are a higher frequency band capable of higher data rates and new switching technology coordinated through a Cleveland control center that will allow more users to use the satellite at the same time, Walz said.

In addition to his piloting duties, Readdy will be in charge of internal support of the space walk. Newman, who worked as a simulation supervisor at JSC before becoming an astronaut, will perform the ORFEUS-

SPAS checkout before turning his attention to the space walk.

Bursch, who will be the flight engineer, also will serve as the remote manipulator system operator, dropping off ORFEUS-SPAS to observe extremely hot and cold matter and picking it up again after six days.

Newman will activate and checkout ORFEUS-SPAS before Bursch raises it to the deploy position. Once the combination is released from the robot arm, SPAS will provide a platform for the ORFEUS ultraviolet telescopes to take their readings. IMAX cameras mounted on SPAS and in

the payload bay will take large-format film images as the pair is released, with Earth as a backdrop.

After Culbertson and Readdy maneuver *Discovery* to a safe distance from ORFEUS-SPAS, they will place the orbiter in front of the satellite on the velocity vector and shoot additional IMAX film. After six or seven days in separate orbits, Bursch will regapple, the satellite and initiate a series of 14 autosequence maneuvers with the arm that will test operations over *Discovery's* nose to simulate space station assembly work.

"We have a lot of operations that are planned for space station assembly operations with over-the-nose type operations with the robotic arm, so hopefully we'll be getting a lot of data in that respect," Bursch said.

Navigation aids will include the JSC-developed Trajectory Control System, developed at JSC flying as test for Mir rendezvous and docking, Readdy said. The laser ranging system, mounted in *Discovery's* payload bay, will give continuous range and rate readings on the satellites as they are deployed, and on ORFEUS-SPAS as it is retrieved.

STS-57 crew lauds support team

(Continued from Page 1)

listening to air-to-ground voice traffic. "It really brought home to me what it's like for all of you that have helped to put the mission together for us, and to be listening to all that work that went into it and seeing how the results come out," Voss said.

Mission Specialist Nancy Sherlock was less reserved in her comments.

"Wow!" she said. "I've had a smile on my face since we blasted off and a few extra days on orbit couldn't erase that smile."

Sherlock said the flight crew and the ground support troops were perfectly synchronized.

"Things didn't go exactly as planned all the time, and when they didn't, that's when that teamwork really showed, and it showed that the folks on the ground in concert with the folks in the air were just matched up perfectly," she said.

Payload Commander David Low was exuberant about the accomplishment of so many widely differing objectives. Then, he turned his attention to the future.

"We are less than 2 1/2 weeks away from the next flight," Low said. "I'm going to go back and join the troops here and help support that flight."

Space News Roundup

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Dates and Data submissions are due Wednesdays, eight working days before the desired date of publication.

Editor Kelly Humphries
Associate Editor Kari Fluegel

Hutchison to fight for space program

(Continued from Page 1)

stronger friend than I am," she said. "I will be a fighter for the space station in the United States Senate. I think the mission is an American mission and it is a mission that the greatest nation in the world must lead."

More than 200 JSC employees

turned out to welcome Hutchison on short notice. JSC Director Aaron Cohen presented a plaque with a U.S. flag that flew to the Moon on Apollo 17, and Flight Crew Operations Director Dave Leestma escorted her on a tour of the space station mockups.

Nassau Bay, Star City to become sisters

(Continued from Page 1)

is very fitting. Right now, two Russian cosmonauts Sergei Krikalev and Vladimir Titov are here at JSC training as prime and backup mission specialists for the STS-60 mis-

sion. We also are looking forward to sending two of our astronauts to Zvyozdny in the future to train to fly aboard the Mir space station," said Don Puddy, JSC special assistant for U.S./Russian programs.

Cohen pledges to maintain competent, experienced JSC work force

(Continued from Page 1)

plete the transition into the new space station program," Goldin testified. "NASA is prepared to do so, but will do so in a way which pays close attention to NASA's most precious resource—its people, employees and contractors alike."

Goldin has pledged to accomplish the presidentially mandated streamlining without any involuntary civil service reduction in force, or layoffs, as long he is given the tools necessary to reorganize and give employees incentives to leave voluntarily.

JSC Director Aaron Cohen

assured employees that everything possible will be done to maintain a highly competent, versatile and experienced team of civil servants and contractors at JSC.

"Strong, robust programs like those that built and operate the space shuttle, and will build and operate the space station are built by smart, talented people, not management structures," Cohen said. "We can achieve efficiencies by reducing management overhead and empowering our employees to do their jobs right the first time, but in the final analysis it is the dedication and

teamwork of our work force that builds success."

According to Human Resources Deputy Director Greg Hayes, the possibilities include an early out retirement option that would allow non-Senior Executive Service employees older than 50 with 20 years of service or any employee with 25 years of service to retire early. Employees under 55 who elect to retire under the early out plan will have to pay a 2 percent per year penalty in their annuities.

Another option being sought is a buyout, which would provide a

\$25,000 incentive for employees of any age to resign or retire early by Sept. 30, Hayes said. Both are still being evaluated by NASA, in coordination with the Office of Personnel Management, Office of Management and Budget and Congress.

Henry Pohl, who led JSC's support to the space station redesign team, said dedication made the redesign effort a success.

"During my almost 37 years with the federal government, I have had the pleasure and opportunity of working on a large number of fantastic projects, starting with Redstone

and progressing through Jupiter, Saturn, Apollo, ASTP, Skylab, shuttle and Space Station Freedom," he said. "None of the above programs gave me more satisfaction than working Option C for the space station redesign. This project reaffirmed my belief that NASA still has the finest men and women in the world."

Pohl said that those at JSC who worked so hard on Option C should not be disappointed it wasn't picked.

"We need to remember that we still have a space station, and after all is said and done, that was our primary objective," Pohl said.